



QUASIMEME

Quality assurance of information
for marine environmental monitoring

Certificate of Analysis



Biota

REFERENCE MATERIAL

Biota sample 361



Certificate of Analysis Biota 361

General Information

In this report an overview is given of analytical data for this sample collected in our proficiency testing program. The consensus values are calculated using a robust statistical model. With this NDA model mean and standard deviation are calculated using all reported data when at least 4 results are left after removal of reported 'lower than' (<) and 0 (= zero) values. No outliers are removed.

This report is divided into two sections: Consensus Values and Indicative Values. The division is made on the reliability of the data. Consensus Values are based on at least 10 results while the relative uncertainty is smaller than 6.25%. Indicative Values are based on a relative uncertainty of maximum 35% with at least 4 and less than 10 results or a relative uncertainty higher than 6.25%.

For each determinand the following parameters are given: mean, standard deviation, coefficient of variation, number of results, median, MAD (Median of Absolute Deviation) and the uncertainty in the assigned value. The confidence limits (at 95 % probability) are calculated for these determinands.

The results of each determinand is expressed on a wet weight basis.

Sample information

QUASIMEME reference materials cover a range of natural Biota species from contaminated waters from the North Sea and/or Mediterranean. The supplied wet test materials are homogenised and sterilised by autoclaving.

This Biota sample 361 of Bream from Volkerak, the Netherlands is prepared for the QUASIMEME proficiency programs. The results on which the values in this report are based were taken from the periods given in the following table.

Year.Round	Program	Sample Round Id
2020.2	BT9	QBC065BT
2020.2	BT10	QPF020BT
2019.2	BT9	QBC062BT



Consensus Values BT9

Method: Brominated Flame Retardants - BT9

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
BDE47	µg/kg	1.07	0.242	22.5	36	1.08	0.168	0.050	0.993	-	1.16
BDE100	µg/kg	0.351	0.0659	18.8	34	0.352	0.0437	0.0141	0.328	-	0.374
BDE153	µg/kg	0.159	0.0419	26.4	34	0.160	0.0300	0.0090	0.144	-	0.173
BDE154	µg/kg	0.426	0.1006	23.6	35	0.430	0.0700	0.0213	0.392	-	0.461



Indicative Values BT9

Method: Brominated Flame Retardants - BT9

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
BDE28	µg/kg	0.0320	0.0131	40.8	25	0.0320	0.0090	0.0033	0.0266 - 0.0374
BDE99	µg/kg	0.0079	0.0070	88.2	11	0.0093	0.0053	0.0026	0.0033 - 0.0126
a-HBCD	µg/kg	0.229	0.1173	51.2	5	0.230	0.0770	0.0656	0.0943 - 0.364
Total HBCD	µg/kg	0.547	0.0605	11.1	4	0.523	0.0460	0.0378	0.463 - 0.631
Total lipid	(%)	6.26	0.275	4.4	9	6.30	0.200	0.114	6.05 - 6.47



Indicative Values BT10

Method: Perfluorinated alkyl substances - BT10

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
n-PFOS	µg/kg	9.03	2.199	24.3	9	9.65	1.547	0.916	7.37	-	10.7
total-PFOS	µg/kg	10.8	2.87	26.6	6	10.4	2.03	1.46	7.93	-	13.7
PFOSA	µg/kg	0.519	0.1906	36.7	4	0.574	0.1250	0.1191	0.254	-	0.783
PFDA	µg/kg	1.19	0.091	7.6	6	1.17	0.065	0.046	1.10	-	1.28
PFUnDA	µg/kg	0.589	0.0594	10.1	5	0.600	0.0400	0.0332	0.521	-	0.657
PFDoA	µg/kg	0.638	0.0309	4.8	5	0.630	0.0200	0.0173	0.602	-	0.673
PFTTrDA	µg/kg	0.317	0.0380	12.0	4	0.315	0.0245	0.0238	0.264	-	0.369
PFTeDA	µg/kg	0.390	0.0633	16.2	4	0.405	0.0425	0.0396	0.303	-	0.478